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The Conflagration Hazard

Western Possibilities of Sweeping Fires Like Those of Minnesota and Canada

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We are not yet on top of the fire problem. Once well started, with weather conditions favorable to spread of fire, control is always difficult; sometimes impossible.

A review of what has happened in the past should sound a warning for the future.

Adequately to safeguard our mature forests and allow our cut-over lands to reforest, much greater prevention effort must be exerted.

While every citizen has an individual responsibility in this matter it remains for nation and state through example as well as through adequate laws and their enforcement to effect such a system of fire prevention as will guarantee against conflagrations with resulting loss of life and property.

The Oregon State Board of Forestry requests careful consideration of Mr. Joy's address which follows. It deals with a problem of vital importance to every citizen of our state.

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The fire season of 1922 will, in the annals of forest protection of the Pacific Northwest, be placed in the same category as the fire season of 1902—the year of the "Dark Day," 1910, and 1912; years in which fires caused a large loss of life and great damage to timber and other property.

From the standpoint of the weather, both as to severity and duration of continuous dry spells, this season is without a parallel. The loss in life and timber is a great deal less than in any one of the other three bad years, but more money was spent in forest protection and in fighting forest fires than in any other year. The loss to logging operators is the greatest it has ever been. The area burned over is exceeded by only one year, that of 1902.

This season was different from the others. Things unlooked for, and which have not occurred before, happened this time. With the litter on the forest floor soaked through, and all forest debris as wet as water could make it, almost out of a rainstorm came the "east wind," dryer than the driest ever known; and, before any one could realize the full portent of the rapidly changed conditions, numerous fires were started and old ones fanned out of control. In western Washington, six days after a heavy rain had fallen, over 100,000 acres of land had been burned over and around $1,000,000 worth of property had been destroyed. One of these fires covered an area comprising 25,000 acres and caused a property damage of $453,000.

Real conflagration weather, the kind out of which large crown fires develop, prevailed on May 30 and 31. That the loss and damage were not greater was due to the fact that there was not a large number of fires started. The fires that were started were impossible of control until weather conditions changed.

In 1912, on May 12 and 13, an almost exact parallel of weather conditions prevailed as did this year on the thirtieth and thirty-first of the same month, except that in 1912 there had been a longer dry period preceding the two bad days. Such weather conditions have prevailed in the past and it is certain that the same combination of forces of nature will cause them to occur again.

The amount of money expended for fire prevention and suppression by forest protective agencies, companies and individual timber owners is far in excess of what it has been for any other season, but there were compensations for these

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expenditures in the result obtained. It was demonstrated that in ordinary summer weather, such as prevailed from June 1 to August 10, that it is possible to check and bring under control almost any fire if proper and adequate methods are employed. The idea which some people have that fire can not be suppressed without rain is fallacious. It is only by more intensive patrol, by the adoption of and compliance with every reasonable regulation, and by the exercise of the utmost vigilance on the part of persons entering the forests, that losses from forest fires can be minimized, and cut-over lands protected and allowed to reforest. *In no other way can fires on such lands be prevented. Burning slashings during any part of the fire season when east winds prevail is extremely hazardous and dangerous.*

Disregard of these instructions is almost certain to some day bring disaster to the people living in the timbered districts of Oregon, Washington, northern Idaho and British Columbia; a disaster which might surpass that of the San Francisco earthquake, or any of the great fires which have brought death and devastation over large areas in both eastern and western states and Canada during the past one hundred years.

I do not like to play the role of one foreboding evil events, but after having passed through the experience of this and other similar seasons, and taken in connection with great fires to be found chronicled in books, and in the forests themselves, I feel impelled to voice a warning and to point out the possibility and danger of this part of the United States being visited by a conflagration as great as any of the others. All that was lacking to bring this about this year was for the same kind of weather to have prevailed during the first week in August as did prevail the last week in May. Only the caprice of the weather saved us from such disaster.

In order that every one may fully appreciate the significance and danger such a situation may some day hold in store for us, it might be well for me to give a resume of the most destructive fires which have occurred in the United States and Canada during the past century.

In October, 1825, the Miramichi fire in Maine and New Brunswick burned over an area of 3,000,000 acres, and 160 people were burned to death. In 1846 the Yaquina fire in Oregon covered 450,000 acres. In May, 1863, the Pontiac fire in Quebec burned over 1,600,000 acres. In September, 1868, the Coos fire in Oregon covered 300,000 acres. In October, 1871, the Peshtigo fire in Wisconsin burned over 1,280,000 acres,

and 1,500 people lost their lives. In the same month and year the fire in Michigan covered 2,000,000 acres. In 1876 the Big Horn fire in Wyoming burned over 500,000 acres.

In September, 1881, the Michigan fire covered 1,000,000 acres, caused a property loss of $2,000,000, and 138 people were burned. In September 1894, the Hinckley fire in Minnesota burned over 160,000 acres and 418 people lost their lives. In September, 1902, the Columbia fire in Oregon and Washington covered an area of 600,000 acres, caused a property loss of $12,700,000, and eighteen people were burned. In August, 1910, the great Idaho fire occurred and burned over 2,000,000 acres in Idaho and Montana, with eighty-five lives lost. In October of the same year the Baudette fire in Minnesota and Ontario covered 300,000 acres, and the loss of lives numbered forty-two.

In August, 1908, the town of Fernie, British Columbia, with a population of 5,000, was destroyed and nearly one hundred people lost their lives. The total loss on all property was around $7,000,000; 64,000 acres were burned over, and 900,000,000 feet of timber burned. The United States sent fifteen carloads of food and $50,000 for relief.

In the northwestern Minnesota fire of October 12, 1918, 400 people were burned to death; 2,000 more or less seriously burned; 13,000 were rendered homeless, and twenty-six towns and villages were partially or completely destroyed. The area covered was 2,000 square miles. A fair estimate of the property loss can be based on the statements made by local officials of the relief commission at the time, to the effect that approximately $5,000,000 would be needed to properly meet the requirements of temporary assistance, and probably $20,000,000 for a semblance of permanent rehabilitation. This was not merely one great fire, but fifty to seventy-five or more, which united and were fanned to huge proportions by the wind, and then, with the increasing energy developed by the consequent violent air movement attending rapid combustion on such an enormous scale, advanced over vast areas with almost incredible speed. Much of the area burned over was cut-over lands—with second growth timber, small towns and sites for growing communities.

The conditions leading up to the Michigan, Hinckley, Columbia, northwestern Minnesota and great Idaho fires were the same in each instance, and were almost an exact counterpart of the conditions as they existed this year in the Pacific Northwest. These conditions are best described by a writer giving

a history of the Hinckley fire in Minnesota, in September, 1894. We read that "There was great lack of rainfall, high temperature, dry air and light winds were persistent for a period of nearly four months, resulting in parched earth, crops destroyed, vegetation of all kinds dried up and down timber and brush but tinder for the match. Fires had been started in August in various places throughout the timber regions of Minnesota and smouldered or sprung into life as the winds arose. Such was the condition on the first day of September, which ushered in high winds that fanned the fires into fierce flames; themselves also creating an upward draft, increasing with the increase of the fierceness of the fires which caused such destruction of life and property."

The conditions herein described were exactly the same as the conditions during the Columbia fire in September, 1902, and the same as prevailed here this year, except that this season did not wind up with a strong wind; but if the wind had come as it did in 1902 the Douglas fir belt in western Oregon, Washington and British Columbia would have been a raging inferno. There were between one and two thousand fires—little and big—burning on logged-off land and in the timber, on August 1 of this year. The only districts which would have escaped were those where no fires had been started. Owing to the large areas of logged-off land covered with so much combustible material it would have been possible, and also probable, for some of the fires to run for forty or fifty miles. When these conditions prevail fire breaks and fire fighting are useless, and what a tale of woe would have been told after it.

With our cut-over lands dotted here and there with settlers' homes and small towns located in districts where the hazard is great the loss in life and property would have been appalling. The historians of the Hinckley, Columbia and Idaho fires relate that the wind was strong enough to tear the roofs from houses and barns and to lift persons from the ground and hurl them short distances through the air. Refugees were driven in all directions: men, women and children were cooked on the ground; while homes, industries and towns were laid in ruins and the whole nation was moved to give succor to the unfortunates.

Such a history could be repeated here if we do not use greater preventive methods, as the fire hazard on the Pacific Coast is growing worse. The potentialities have *always* been here for a catastrophic combination of weather conditions and,

when appearing in conjunction with a fire situation as critical as existed on August 1 of this year, will bring disaster and ruin to the whole community.

Every one who has investigated the subject and given it thought knows that all of our fir forests have followed fires. There are no trees here 2,000 and 3,000 years old, as are the giant sequoias of California. Here there are large areas of dense stands of timber of about the same age—from 300 to 500 years old. Charred material is to be found everywhere throughout these forests. This would indicate that at about the time this continent was discovered by Columbus the fir region was one day a roaring furnace.

The great storm on the Olympic Peninsula in January, 1921, where no such storm had occurred for at least 250 years previous thereto, is a warning to us that cataclysms of the forces of nature will cause great conflagrations to occur again unless civilization makes conditions safer. Thus far civilization has worked to aggravate the situation.

Soon after the Columbia fire occurred in 1902 I had occasion to visit the devasted area on the North Fork of the Lewis River in Cowlitz County. A little spot in a settler's clearing in the forest was pointed out to me as the place where eleven men, women and children had burned to death. Two or three miles further up the road I was shown the spot where the mail carrier on his round of duty had met the same fate. For miles in every direction stood a blackened, dead forest. It is still there, a mute evidence of a destruction the import of which is nationwide. These incidents created a profound impression, leaving a feeling with me that the same thing would happen again unless adequate measures were adopted to prevent it.

Nine years later I went through an experience with a great crown fire, and I must add that until you have seen one—seen the huge, red streamers fling themselves up into the sky and the dense rolling clouds of black smoke rush upward toward the heavens—you can not fully appreciate "how powerless is the hand of man to stay the forces of nature when she asserts herself with all her might."

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